[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0810; Project Identifier AD-2021-01238-T]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all The Boeing Company Model 777 airplanes. This proposed AD was prompted by fuel system reviews conducted by the manufacturer. This proposed AD would require, depending on the airplane configuration, installation of Teflon sleeves, cap sealing of fasteners, detailed inspections, and corrective actions. This proposed AD would also require revising the existing maintenance or inspection program, as applicable, to incorporate more restrictive airworthiness limitations (AWLs). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to www.regulations.gov. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet www.myboeingfleet.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, is also available at www.regulations.gov by searching for and locating Docket No. FAA-2022-0810.

Examining the AD Docket

You may examine the AD docket at www.regulations.gov by searching for and locating Docket No. FAA-2022-0810; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: kevin.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2022-0810; Project Identifier AD-2021-01238-T" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public

docket of this NPRM. Submissions containing CBI should be sent to Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: kevin.nguyen@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA has examined the underlying safety issues involved in fuel tank explosions on several large transport airplanes, including the adequacy of existing regulations, the service history of airplanes subject to those regulations, and existing maintenance practices for fuel tank systems. As a result of those findings, the FAA issued a regulation titled "Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements" (66 FR 23086, May 7, 2001). In addition to new airworthiness standards for transport airplanes and new maintenance requirements, this rule included Special Federal Aviation Regulation No. 88 (SFAR 88), Amendment 21-78. Subsequently, SFAR 88 was amended by Amendment 21-82 (67 FR 57490, September 10, 2002; corrected at 67 FR 70809, November 26, 2002) and Amendment 21-83 (67 FR 72830, December 9, 2002; corrected at 68 FR 37735, June 25,2003, to change "21-82" to "21-83").

Among other actions, SFAR 88 requires certain type design (i.e., type certificate (TC) and supplemental type certificate (STC)) holders to substantiate that their fuel tank systems can prevent ignition sources in the fuel tanks. This requirement applies to type design holders for large turbine-powered transport airplanes and for subsequent modifications to those airplanes. It requires them to perform design reviews and to develop design changes and maintenance procedures if their designs do not meet the new fuel tank safety standards. As explained in the preamble to the rule, the FAA intended to adopt airworthiness directives to mandate any changes found necessary to address unsafe

conditions identified as a result of these reviews.

In evaluating these design reviews, the FAA has established four criteria intended to define the unsafe conditions associated with fuel tank systems that require corrective actions. The percentage of operating time during which fuel tanks are exposed to flammable conditions is one of these criteria. The other three criteria address the failure types under evaluation: Single failures, combination of failures, and unacceptable (failure) experience. For all three failure criteria, the evaluations included consideration of previous actions taken that may mitigate the need for further action.

The FAA has determined that the actions identified in this proposed AD are necessary to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

The FAA issued AD 2017-11-14, Amendment 39-18913 (82 FR 25954, June 6, 2017) (AD 2017-11-14), for certain The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes, to prevent arcing inside the main and center fuel tanks in the event of a fault current or lightning strike, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

AD 2017-11-14 requires certain inspections for certain airplanes, corrective actions if necessary, and installation of Teflon sleeves under certain wire bundle clamps.

Since the FAA issued AD 2017-11-14, it was discovered that more airplanes are affected by the identified unsafe condition, and additional work is required for airplanes on which an earlier revision of the service information was done.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021. This service information specifies applicable actions that vary depending on the airplane configuration, such as procedures for the installation of Teflon sleeves, cap sealing of fasteners, detailed inspections, and corrective actions. The detailed inspection of and installation of Teflon sleeves includes various locations, such as the rear spar wire bundles, inboard and outboard front spar wire bundles, wing-to-body fairing and environmental control system (ECS) bay wire bundles, front and rear spar bulkhead wire bundles, and wing rear spar wire bundles. The detailed inspection of and cap sealing of fasteners include fasteners in the center fuel tank, left and right main fuel tanks, and right cheek portion of the center fuel tank. Corrective actions include installing Teflon sleeve, installing clamp, and cap sealing fasteners.

The FAA also reviewed Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated March 2022, of Boeing 777 200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document. This service information specifies, among other airworthiness limitations, 28-AWL-31 and 28-AWL-32 that address cushion clamps and Teflon sleeving installed on out-of-tank wire bundles installed on brackets that are mounted directly on the fuel tanks.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would require doing all applicable actions (i.e., installation of Teflon sleeves, cap sealing of fasteners, detailed inspections, and corrective actions) identified in Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021. This proposed AD would also require revising the existing maintenance or

inspection program, as applicable, to incorporate AWLs 28-AWL-31 and 28-AWL-32 as identified in Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated March 2022. For information on the procedures and compliance times for the applicable actions specified in paragraph (g) of this AD, see Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, at www.regulations.gov by searching for and locating Docket No. FAA-2022-0810.

This proposed AD would require revisions to certain operator maintenance documents to include new actions (e.g., inspections) and Critical Design Configuration Control Limitations (CDCCLs). Compliance with these actions and CDCCLs is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this proposed AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (m) of this proposed AD.

This NPRM would not supersede AD 2017-11-14. Rather, the FAA has determined that a stand-alone AD would be more appropriate to address the changes. Accomplishment of the actions required by paragraph (g) of this proposed AD would then terminate the requirements of paragraphs (g)(1), (i), and (j) of AD 2017-11-14.

In addition, accomplishment of the revision required by paragraph (i) of this proposed AD would terminate the requirements of paragraphs (g)(6) and (h) of AD 2021-24-12, Amendment 39-21833 (86 FR 73660, December 28, 2021) (AD 2021-24-12). AD 2021-24-12 requires revising the existing maintenance or inspection program, as applicable, to incorporate multiple AWLs, including 28-AWL-31 and 28-AWL-32.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 282 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs*

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Installations, cap sealing, and inspections	Up to 545 work-hours X $85 per hour = $46,325	Up to $3,510	Up to $49,835	Up to $14,053,470

*Table does not include estimated costs for revising the existing maintenance or inspection program

The FAA has determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although the agency recognizes that this number may vary from operator to operator. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the average total cost per operator to be $7,650 (90 work-hours x $85 per work-hour).

The FAA estimates the following costs to do any necessary corrective actions that would be required based on the results of the proposed inspections. The agency has no way of determining the number of aircraft that might need these actions:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Corrective actions	Up to 26 work-hours X $85 per hour = $2,210	Up to $3,510	Up to $5,720

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

The Boeing Company: Docket No. FAA-2022-0810; Project Identifier AD-2021-01238-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

(1) This AD affects AD 2017-11-14, Amendment 39-18913 (82 FR 25954, June 6, 2017) (AD 2017-11-14).

(2) This AD also affects AD 2021-24-12, Amendment 39-21833 (86 FR 73660, December 28, 2021) (AD 2021-24-12).

(c) Applicability

This AD applies to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Unsafe Condition

This AD was prompted by fuel system reviews conducted by the manufacturer. The FAA is issuing this AD to prevent arcing inside the main and center fuel tanks in the

event of a fault current or lightning strike, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Service Bulletin Actions

For airplanes identified in Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021: Except as specified in paragraph (h) of this AD, at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, do all applicable actions (i.e., installation of Teflon sleeves, cap sealing of fasteners, detailed inspections, and corrective actions) identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021. Do all applicable corrective actions before further flight.

(h) Exceptions to Service Information Specifications

(1) Where Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, uses the phrase "the revision 5 date of this service bulletin" or "the revision 6 date of this service bulletin," this AD requires using "the effective date of this AD."

(2) Where circle symbol 1 of sheet 2 of Figures 172, 173, and 174 of Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, points to the outboard side of rib no. 9 for the locate and cap seal task or the inspection task, as applicable, in step 1 of sheet 3, for this AD, circle symbol 1 points to the seven fasteners located at the inboard side of rib no. 9.

(3) Where circle symbol 1, next to the text "7 locations," of sheet 2 of Figure 175 and Figure 176 of Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, points to the outboard side of rib no. 9 for the locate and cap seal task

or the inspection task, as applicable, in step 1 of sheet 3, for this AD, circle symbol 1, next to the text "7 locations," points to the seven fasteners located at the inboard side of rib no. 9.

(4) Where circle symbol 1, next to the text "7 locations," of sheet 4 of Figure 179 and Figure 180 of Boeing Alert Service Bulletin 777-57A0050, Revision 6, dated August 18, 2021, points to the outboard side of rib no. 9 for the locate and cap seal task or the inspection task, as applicable, in step 1 of sheet 6, for this AD, circle symbol 1, next to the text "7 locations," points to the seven fasteners located at the inboard side of rib no. 9.

(i) Maintenance or Inspection Program Revision

Within 60 days after the effective date of this AD, revise the existing maintenance or inspection program, as applicable, to incorporate the information for 28-AWL-31 and 28-AWL-32 specified in Section D, "Airworthiness Limitations-Systems," including Subsections D.1, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated March 2022, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document, except as specified in paragraph (j) of this AD. The initial compliance time for doing airworthiness limitation instructions (ALI) task 28-AWL-32 is at the applicable time specified in paragraph (i)(1) or (2) of this AD:

(1) For airplanes having line numbers (L/Ns) 1 through 503 inclusive: Within 3,750 days after accomplishment of the actions specified in Boeing Service Bulletin 777-57A0050, or within 60 months after the effective date of this AD, whichever occurs later.

(2) For airplanes having L/Ns 504 and subsequent: Within 3,750 days after the date of issuance of the original airworthiness certificate or the date of issuance of the

original export certificate of airworthiness; or within 60 months after the effective date of this AD; whichever occurs later.

(j) Exceptions to the AWLs

The following exceptions apply to 28-AWL-31 and 28-AWL-32 of Section D, "Airworthiness Limitations—Systems," including Subsections D.1 of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated March 2022, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

(1) In paragraph 1.i., change "Front Spar Bulkhead (Center Tank)" to "Front Spar Bulkhead (Center Wing Tank Fuel Quantity Greater than 12,400 Gallons)."

(2) In paragraph 1.i.II, change "For 777-200, 777-200LR, 777-300, and 777-300ER airplanes, L/N 562 and on" to "L/N 562 and on, except 777F."

(3) In paragraph 1.i.III., change "For 777F airplanes, L/N 718 and on" to "For 777F airplanes."

(4) In paragraph 1.j., change "Rear Spar Bulkhead (Center Tank)" to "Rear Spar Bulkhead (Center Wing Tank Fuel Quantity Greater than 12,400 Gallons)."

(k) No Alternative Actions, Intervals, or Critical Design Configuration Control Limitations (CDCCLs)

After the existing maintenance or inspection program has been revised as required by paragraph (i) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, and CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (m) of this AD.

(l) Terminating Action for Certain Requirements of AD 2017-11-14 and AD 2021-24-12

(1) Accomplishment of the actions required by paragraph (g) of this AD terminates the requirements of paragraphs (g)(1), (i), and (j) of AD 2017-11-14.

(2) Accomplishment of the revision required by paragraph (i) of this AD terminates the requirements of paragraphs (g)(6) and (h) of AD 2021-24-12.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (n)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(n) Related Information

(1) For more information about this AD, contact Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: kevin.nguyen@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet www.myboeingfleet.com. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on June 30, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-15848 Filed: 7/25/2022 8:45 am; Publication Date: 7/26/2022]